

نام و نام خانوادگی: محمد مهدی رحمانی پاسخنامه تشریحی تکلیف شماره 7... کلاس: ۱ یا ۲ دهم پسران ۳

(۲)

5)

②

✓





1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

1

1, 75

الف) $y = 3\sin x + 2\cos x \rightarrow -\sqrt{13} \leq 3\sin x + 2\cos x \leq \sqrt{13} \rightarrow R_y = [-\sqrt{13}, \sqrt{13}]$ ✓

ب) $y = 4\sin x - 3\cos x \rightarrow -5 \leq 4\sin x - 3\cos x \leq 5 \rightarrow R_y = [-5, 5]$ ✓

ج) $y = [2\sin x + 5\cos x] \rightarrow \sqrt{29} \leq 2\sin x + 5\cos x \leq \sqrt{29} \rightarrow R_y = \{-6, -5, -4, \dots, 4, 5\}$ ✓

د) $y = \sqrt{\cos x - 2\sin x} \rightarrow \sqrt{\cos x - 2\sin x} \leq \sqrt{5} \rightarrow R_y = [0, \sqrt{5}]$ ✓

الف) $y = \sin^2 x + 3\sin x + 2$
 $\sin x = 1 \rightarrow \max, 1 + 3 + 2 = 6$
 $\sin x = -1 \rightarrow \min, 1 - 3 + 2 = 0$
 $R_y = [0, 6]$ ✓

ب) $y = 2\sin^2 x + 3\sin x + 2$
 $\sin x = 1 \rightarrow \max, 2 + 3 + 2 = 7$
 $\sin x = -\frac{3}{4} \rightarrow \min, \frac{18}{16} - \frac{9}{4} + 2 = \frac{7}{8}$
 $R_y = [\frac{7}{8}, 7]$ ✓

الف) $y = \sin^2 x + 4\cos^2 x \rightarrow \sin^2 x + 4(1 - \sin^2 x) = 4 - 3\sin^2 x$
 $\sin x = 1 \rightarrow \max, 4 - 3 = 1$
 $\sin x = 0 \rightarrow \min, 4$

ب) $y = \frac{2\cot x}{1 + \cot^2 x} = \frac{2 \frac{\cos}{\sin}}{\frac{1}{\sin^2}} = 2\sin x \cos x = \sin 2x \rightarrow R_y = [-1, 1]$ ✓

الف) $y = \sin^6 x + \cos^6 x \rightarrow 2^{-2} \leq \sin^6 x + \cos^6 x \leq 1 \rightarrow R_y = [\frac{1}{4}, 1]$ ✓

ب) $y = [\sin^8 x + \cos^8 x] \rightarrow 2^{-3} \leq \sin^8 x + \cos^8 x \leq 1 \rightarrow R_y = \{0, 1\}$ ✓

الف) $y = \frac{2x^2 + 7x - 4}{x + 4} \rightarrow \frac{(x+4)(2x-1)}{x+4} = 2x-1$
 $D = \mathbb{R} - \{-4\}$
 $R_y = \mathbb{R}$
 $R = \mathbb{R} - \{-9\}$

ب) $y = \frac{x^3 - 1}{x - 1} \rightarrow \frac{(x-1)(x^2 + x + 1)}{x-1} = x^2 + x + 1$
 $D = \mathbb{R} - \{1\}$
 $f(x) = f(-5) = 3$
 $\min \rightarrow (-\frac{1}{2}, \frac{3}{2})$
 $R = [\frac{3}{4}, +\infty)$

جیوں سہمے است ۳ حذف
 ۶